AMENDMENTS TO THE CLAIMS

This listing of the claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A functional polymer that is defined by the formula

$$\pi\text{-}R^1\text{-}\alpha$$

where π is a polymer chain selected from the group consisting of polybutadiene, polyisoprene, poly(styrene-*co*-butadiene), poly(styrene-*co*-butadiene-*co*-isoprene), poly(isoprene-*co*-styrene), and poly(butadiene-*co*-isoprene), R^1 is a bond or a divalent organic group, and α is a sulfur-containing heterocycle selected from ~~a~~ the group consisting of thiirane, thietane, thiolane, thiazoline, dihydrothiophene, thiadiazine, thioxanthene, thianthrene, phenoxathiin, dihydroisothiazole, ~~or~~ and thienofuran group or substituted form thereof.

2. (Currently amended) A method for preparing a functional polymer, the method comprising:

terminating a living polymer chain with a functionalizing agent where the functionalizing agent is defined by the formula

$$Z\text{-}R^4\text{-}\alpha$$

where Z is a leaving group or an addition group, R^4 is a bond or a divalent organic group, and α is a sulfur-containing heterocycle selected from ~~a~~ the group consisting of thiirane, thietane, thiolane, thiazoline, dihydrothiophene, thiadiazine, thioxanthene, thianthrene, phenoxathiin, dihydroisothiazole, ~~or~~ and thienofuran group or substituted form thereof.

3. (Currently amended) A method for preparing a cured tire component, the method comprising:

providing a rubber formulation comprising at least one vulcanizable rubber and a filler, where the at least one vulcanizable rubber is a functional polymer that is defined by the formula

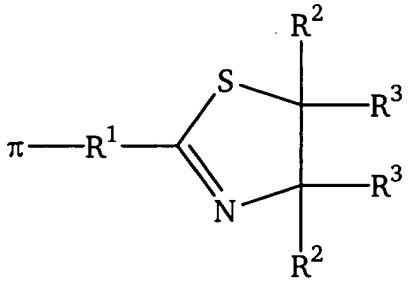
$$\pi\text{-}R^1\text{-}\alpha$$

where π is a polymer chain, R^1 is a bond or a divalent organic group, and α is a sulfur-containing heterocycle selected from the group consisting of thianthrene, phenoxathiin, dihydroisothiazole, ~~or~~ and thienofuran group or a substituted form thereof;

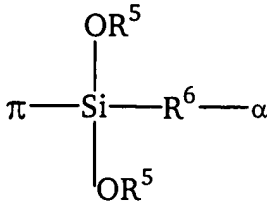
forming the rubber formulation into an uncured tire component;

vulcanizing the uncured tire component to form a cured tire component.

4. (Currently amended) The polymer of claim 1, where the functional polymer ~~can be~~ is defined by the formula



where π is a polymer chain, R^1 is a bond or a divalent organic group, each R^2 is independently hydrogen or a monovalent organic group, each R^3 is independently hydrogen or a monovalent organic group, or where each R^3 combine with each other to form a divalent organic group; or where the functional polymer can be defined by the formula



where π is a polymer chain, each R^5 is independently a monovalent organic group, R^6 is a bond or a divalent organic group, and α is a sulfur-containing heterocycle.

5. (Previously presented) The polymer of claim 1, where R^1 includes the residue of an addition reaction between an addition group and a living polymer, and wherein the addition group comprises a nitrile group, a Schiff base, a ketone group, an aldehyde group, or an ester group.

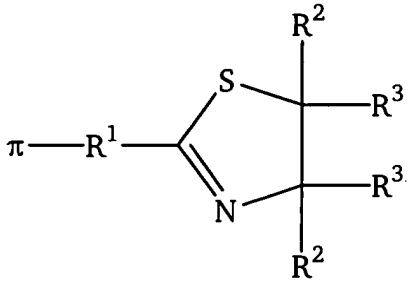
6. (Previously presented) The polymer of claim 1, where the polymer chain is a rubbery polymer having a Tg that is less than 0°C.

7. (Cancelled)

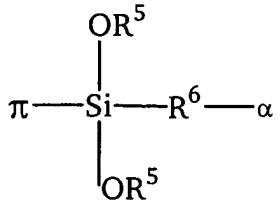
8. (Previously presented) The method of claim 2, where Z comprises a halide, a thio alkoxide group, an alkoxide group, a dialkyl amine group, a nitrile group, a Schiff base, a ketone group, an aldehyde group, or an ester group.

9. (Original) The method of claim 3, where the filler is carbon black, silica or both.

10. (Currently amended) The method of claim 3, where the functional polymer ~~can be~~ is defined by the formula



where π is a polymer chain, R^1 is a bond or a divalent organic group, each R^2 is independently hydrogen or a monovalent organic group, each R^3 is independently hydrogen or a monovalent organic group, or where each R^3 combine with each other to form a divalent organic group; or where the functional polymer can be defined by the formula



where π is a polymer chain, each R^5 is independently a monovalent organic group, R^6 is a bond or a divalent organic group, and α is a sulfur-containing heterocycle.

11. (Previously presented) The method of claim 3, where R^1 includes the residue of an addition reaction between an addition group and a living polymer, and wherein the addition group comprises a nitrile group, a Schiff base, a ketone group, an aldehyde group, or an ester group.

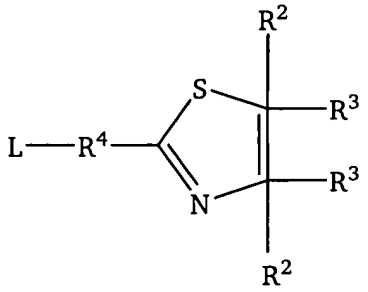
12. (Previously presented) The method of claim 2, where the polymer chain is a rubbery polymer having a Tg that is less than 0°C.

13. (Previously presented) The method of claim 3, where the polymer chain is a rubbery polymer having a Tg that is less than 0°C.

14. (Previously presented) The method of claim 2, where the polymer chain is polybutadiene, polyisoprene, poly(styrene-*co*-butadiene), poly(styrene-*co*-butadiene-*co*-isoprene), poly(isoprene-*co*-styrene), or poly(butadiene-*co*-isoprene).

15. (Previously presented) The method of claim 3, where the polymer chain is polybutadiene, polyisoprene, poly(styrene-*co*-butadiene), poly(styrene-*co*-butadiene-*co*-isoprene), poly(isoprene-*co*-styrene), or poly(butadiene-*co*-isoprene).

16. (New) The method of claim 2, where the functionalizing agent is defined by the formula

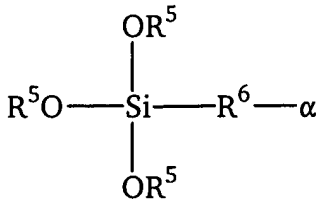


where L is a leaving group, R^4 is a bond or a divalent organic group, each R^2 is independently hydrogen or a monovalent organic group, and each R^3 is independently hydrogen or a monovalent organic group or where each R^3 combine with each other to form a divalent organic group.

17. (New) The method of claim 16, where the functionalizing agent is selected from the group consisting of 2-methylthio-2-thiazoline, 2-ethylthio-2-thiazoline, 2-propylthio-2-thiazoline, 2-butylthio-2-thiazoline, 2-pentylthio-2-thiazoline, 2-hexylthio-2-thiazoline, 2-heptylthio-2-thiazoline, 2-dodecylthio-2-thiazoline, 2-phenylthio-2-thiazoline, 2-benzylthio-2-thiazoline, 2-chloro-2-thiazoline, 2-bromo-2-thiazoline, 2-iodo-2-thiazoline, 2-dimethylamino-2-

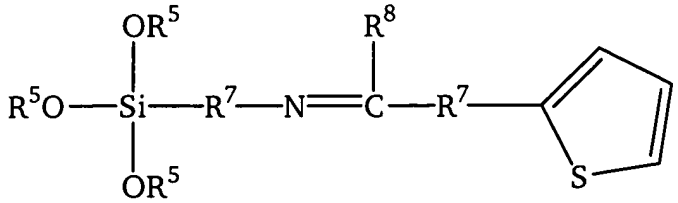
thiazoline, 2-diethylamino-2-thiazoline, 2-methoxy-2-thiazoline, 2-ethoxy-2-thiazoline, 2-(N-methyl-N-3-trimethoxysilylpropyl)-thiazoline, and 2-methylthio-1-aza-3-thia-bicyclo[3-4-0]-nonene.

18. (New) The method of claim 2, where the functionalizing agent is defined by the formula



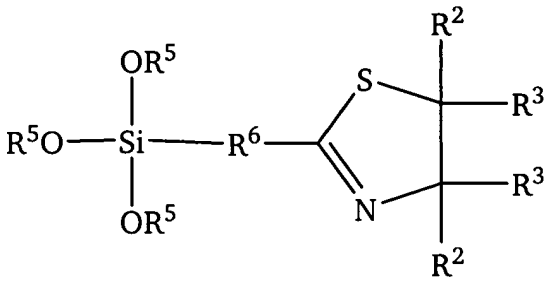
where α is a sulfur-containing heterocycle selected from the group consisting of thiirane, thietane, thiolane, thiazoline, dihydrothiophene, thiadiazine, thioxanthene, thianthrene, phenoxathiin, dihydroisothiazole, and thienofuran group or substituted form thereof, each R^5 is independently a monovalent organic group, and R^6 is a bond or a divalent organic group.

19. (New) The method of claim 18, where the functionalizing agent is defined by the formula



where R^5 is independently a monovalent organic group, each R^7 is independently a bond or a divalent organic group, and R^8 is hydrogen or a monovalent organic group.

20. (New) The method of claim 2, where the functionalizing agent is defined by the formula



where each R^2 is independently hydrogen or a monovalent organic group, each R^3 is independently hydrogen or a monovalent organic group or where each R^3 combine with each other to form a divalent organic group, each R^5 is independently a monovalent organic group, and R^6 is a bond or a divalent organic group.

21. (New) The method of claim 2, where the functionalizing agent is selected from the group consisting of 2-(N-methyl-N-3-trimethyoxysilylpropyl)thiazoline, 2-(N-methyl-N-3-trimethyoxysilylpropyl)thiophene, 2-(N-methyl-N-3-trimethyoxysilylpropyl)thiazole, and the reaction product of 2-thienyl carboxaldehyde and aminopropyl trialkoxysilane.